

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/600.130 Confirmation No.: 8898
Inventor : Campbell
Filing Date : May 14, 2001
Title : Double Nuclear Transfer Method and Results Thereof
T.C./A.U. : 1632
Examiner : Joseph T. Voitach

Docket No. : 105434.105001
Customer No.: 20786

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to the duty of disclosure under 37 CFR §§ 1.56, 1.97 and 1.98, Applicants cite the publications listed on the accompanying PTO-1449. Copies of all listed references are enclosed. Also enclosed is a check for \$180.00 for submission of an Information Disclosure Statement. Please credit any overpayment or charge any deficiency to Deposit Account No. 11-0980.

09/03/2003 MBIZUNES 00000043 09600130

01 FC:1806

180.00 OP

Respectfully submitted,

Sherry M. Knowles, Esq.

Registration No. 33,052


King & Spalding
191 Peachtree Street, N.E.
Atlanta, Georgia 30303
404-572-3541
404-572-5145 fax

RECEIVED
SEP 04 2003
TECH CENTER 1600/2900
1632



CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this Information Disclosure Statement and accompanying art a
being deposited with the United States Postal Service on the date shown below with sufficient
postage as first-class mail in a box addressed to the Commissioner for Patents, PO Box 1450,
Alexandria, VA 22313-1450.


Stephanie D. Adams

August 25, 2003

TECH CENTER 1690/2900

SEP 04 2003

RECEIVED

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) Page 1 of 4		Application Number	09/600,130
		Filing Date	May 14, 2001
		First Named Inventor	Campbell
		Group Art Unit	
		Examiner Name	
		Attorney Docket Number	10534.105001

RECEIVED
SEP 04 2003
TECH CENTER 1600/2900

U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages/Relevant Figures Appear
		Number	Kind Code ² (if known)			
	AA	6,011,197		Strelchenko <i>et al.</i>	01-04-2000	

FOREIGN PATENT DOCUMENTS								
Examiner Initials *	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document DD-MM-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number	Kind Code ² (if known)				

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T ⁶
	AB	Baguisi et al "Production of goats by somatic cell nuclear transfer" Nature Biotechnology (1999) 17: pp. 456-461		
	AC	R.O. Bates and B.N. Day "The Attainment of Estrus in Sows Administered with 400 IU Pregnant Mare Serum Gonadotropin and 200 IU Human Chorionic Gonadotropin at Weaning" American Society of Animal Science Annual Meeting, New Brunswick, NJ, July 19-22 (1989).		
	AD	Betthausen <i>et al.</i> "Production of cloned pigs from in vitro systems" Nature Biotechnology. 18:1055-1059 (2000)		
	AE	Booth <i>et al.</i> , "Application of the Zona-Free Manipulation Technique to Porcine Somatic Nuclear Transfer", Cloning and Stem Cells Vol. 3, No. 4, 2001 (Mary Ann Liebert, Inc.)		
	AF	E.W. Carney and R.H. Foote "Effects of superovulation, embryo recovery, culture system and embryo transfer on development of rabbit embryos in vivo and in vitro," J. Reprod. Fert. (1990) 89, 543-551		
	AG	Chen <i>et al.</i> "Interspecies Implantation and Mitochondria Fate of Panda-Rabbit Cloned Embryos", Biology of Reproduction 67, 637-642 (2002)		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

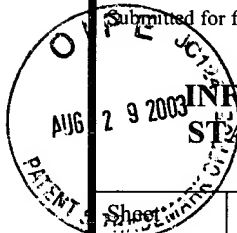
¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.



Submitted for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	09/600,130
				Filing Date	May 14, 2001
				First Named Inventor	Campbell
				Group Art Unit	
				Attorney Docket Number	10534.105001
Sheet	2	of	4		

RECEIVED
SEP 04 2003
TECH CENTER 1600/2900

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶	
	BA	Chesne <i>et al.</i> "Cloned Rabbits produced by nuclear transfer from adult somatic cells" Nature Biotechnology 20:366-369 (2002)		
	BB	Choi <i>et al.</i> "Production of Nuclear Transfer Horse Embryos by Piezo-Driven Injection of Somatic Cell Nuclei and Activation with Stallion Sperm Cytosolic Extract", Biology of Reproduction 67, 561-567 (2002)		
	BC	Chrenek, <i>et al.</i> "Effects of Superovulationm Culture and Microninjection on Development of Rabbit Embryos in vitro," Theriogenology 50: 659-666 (1998)		
	BD	Daniels, <i>et al.</i> , "Comparison of Gene Transcription in Cloned Bovine Embryos Produced by Different Nuclear Transfer Techniques," Molecular Reproduction and Development 60:281-288 (2001)		
	BE	Galli <i>et al.</i> , "Comparison of Microinjection (Piezo-Electric) and Cell Fusion for Nuclear Transfer Success with Different Cell Types in Cattle," Cloning and Stem Cells Vol. 4, pp 189-196. No. 3, 2002		
	BF	Galli <i>et al.</i> , "Embryo Production By Ovum Pick Up From Live Donors," Theriogenology 55:1341-1357 (2001)		
	BG	Garcia-Ximenez <i>et al.</i> , "Embryo Transfer in Lactating Rabbit does by Laparoscopy," Amm Reprod Soci 24. 343-346 (1991)		
	BH	Gjorret <i>et al.</i> , "Ultrastructure of Oocyte Maturation, Fertilization, and Early Embryo Development In Vitro in the Siberian Tiger (<i>Panthera Tigris Altaica</i>)" Molecular Reproduction and Development 63:79-88 (2002)		
	BI	H.H. Herrmann, W. Holtz "Culture of Pig Embryos Collected in Situ or After Slaughter" Animal Reproduction Science, 4 (1981) 143-147		
	BJ	Hiroyoshi Hoshi "In Vitro Production of Bovine Embryos and their Application for Embryo Transfer" Theriogenology 59 (2003) 675-685		
	BK	Jin <i>et al.</i> , "Successful Pregnancy After Transfer of Rabbit Blastocysts Grown In Vitro From Single-Cell Zygotes" Theriogenology 54:1109-1116 (2000)		
	BL	Knott <i>et al.</i> , "Porcine Sperm Factor Supports Activation and Development of Bovine Nuclear Transfer Embryos" Biology of Reproduction 66 1095-1103 (2002)		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

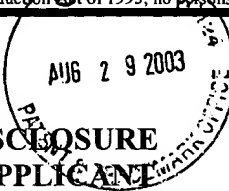
Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO		<div style="text-align: center;">  </div>	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Complete if Known	
		Application Number	09/600,130
		Filing Date	May 14, 2001
		First Named Inventor	Campbell
		Group Art Unit	
Attorney Docket Number	10534.105001		
Sheet	3	of	4

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	CA	Kubota <i>et al.</i> , "Six cloned Calves Produced from Adult Fibroblast Cells After Long-term Culture" PNAS Vol. 97 No. 3: pp. 990-995 (2000)	
	CB	Lee <i>et al.</i> , "Cloned Zebrafish by Nuclear Transfer from Long-term-cultured Cells" Nature biotechnology Vol. 20:pp795-799 (August 2002)	
	CC	Li <i>et al.</i> , "Conditions for In Vitro Maturation and Artificial Activation of Ferret Oocytes" Biology of Reproduction 66, 1380-1386 (2002)	
	CD	Li <i>et al.</i> , "Technical Note: Porcine Non-Surgical Embryo Transfer" J Animal Science 74:2263-3368 (1996)	
	CE	Loi <i>et al.</i> "Genetic Rescue of an endangered mammal by cross-species nuclear transfer using post-mortem somatic cells" Nature Biotechnology Vol 19: pp 962-964 (2001)	
	CF	Love & Grey "Early Abortion of Gilts as A Way Of Synchronising Oestrus and Improving Litter Size" (1993)	
	CG	Paul A. Martin, D.V.M., Ph.D. "Embryo Transfer in Swine" Embryo Transfer and Genetic Engineering 66-69	
	CH	Ogura <i>et al.</i> , "Production of Male Cloned Mice from Fresh, Cultured, and Cryopreserved Immature Sertoli Cells Biology of Reproduction 62:1579-1584 (2000)	
	CI	Piotrowska <i>et al.</i> , "Effects of Preactivation of Ooplasts or Synchronization of Blastomere Nuclei in G1 on Preimplantation Development of Rabbit Serial Nuclear Transfer Embryos" Biology of Reproduction 63, 677-682 (2000)	
	CJ	C.E. Pope "Embryo Technology in Conservation Efforts For Endangered Felids Theriogenology 53:163-174 (2000)	
	CK	Saikhun <i>et al.</i> , "Xenonuclear Transplantation of Buffalo (<i>Bubalus bubalis</i>) fetal and Adult Somatic Cell Nuclei Into Bovine (<i>Bos Indicus</i>) Oocyte Cytoplasm and their Subsequent Development" Theriogenology 57:1829-1837 (2002)	
	CL	Shin <i>et al.</i> "A Cat Cloned by Nuclear Transplantation" Nature Vol.415 pg 859 (February 21 2002)	
	CM	Michelle Sims and N.L. First "Production of Calves by Transfer of Nuclei From Cultured Inner Cell Mass Cells" Proc. Natl. Acad. Sci. USA Vol. 90:pp6143-6147 (June 1993)	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submitted for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Complete if Known	
				Application Number	09/600,130
				Filing Date	May 14, 2001
				First Named Inventor	Campbell
				Group Art Unit	
Sheet	4	of	4	Attorney Docket Number	10534.105001

RECEIVED

SEP 04 2003

TECH CENTER 1600/2900

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	DA	Techakumphu <i>et al.</i> , "Survival of Rabbit Embryos after Synchronous or Asynchronous Transfer" Animal Reproduction Science 12:297-304 (1987)	
	DB	Wakayama <i>et al.</i> , "Mice Cloned from Embryonic Stem Cells" PNAS Vol. 96:pp14984-14989 (December 21, 1999)	
	DC	Wilmut <i>et al.</i> , "Somatic Cell Nuclear Transfer" Nature Vol.419:pp583-585 (October 10, 2002)	
	DD	Wood <i>et al.</i> , "Efficacy of Altrenogest in Synchronizing Estrus in Two Swine Breeding Programs and Effects on Subsequent Reproductive Performance of Sows" J Anim, Sci. 70:1357-1364 (1992)	
	DE	Woods <i>et al.</i> , "A Mule Cloned from Fetal Cells by Nuclear Transfer" Scienceexpress pg 1-2 (May 29 2003)	



Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.